

**Supplementary Table S4: Clinical and histopathological characteristics of patient-derived xenografts.**

| <b>PDX MODEL</b>    | <b>SEX</b> | <b>Age at diagnosis (Years)</b> | <b>Histological subtype</b> | <b>Histologic and molecular characteristics</b>                          | <b>Metastasis at diagnosis</b> | <b>Therapies pre-sample</b>                                     | <b>Therapies post-sample</b>         | <b>Status at last control</b> |
|---------------------|------------|---------------------------------|-----------------------------|--|--------------------------------|---|--------------------------------------|-------------------------------|
| <b>LMS-IBiS-002</b> | Woman      | 53                              | Uterine LMS                 | High mitotic index<br>Spindle cell bundles<br>Nuclear pleomorphism       | No                             | Surgery<br>GEM + DTIC<br>RT and<br>Brachytherapy<br>Trabectedin | Olaratumab + DXR<br>Pazopanib        | Dead                          |
| <b>LMS-IBiS-010</b> | Man        | 59                              | Deltoid LMS                 | SMA and Desmin positive<br>Caldesmon negative                            | Yes (lungs)                    | No  | Olaratumab + DXR<br>Trabectedin + RT | Alive with disease            |
| <b>LMS-IBiS-015</b> | Man        | 53                              | Dedifferentiated LPS        | MDM2, SMA and desmin positive<br>Myogenin, CD117, DOG1 and S100 negative | No                             | No  | Surgery<br>EPI + IFO                 | Dead                          |

AML: smooth muscle actin; DOG1: discovered on GIST-1; DTIC: dacarbazine; DXR: doxorubicin; EPI: epirubicin; GEM - gemcitabine; IFO - ifosfamide; LMS - leiomyosarcoma; LPS - liposarcoma; MDM2 - murine double minute 2; RT – radiotherapy.